

In the Claims

Please cancel claims 1-60, without prejudice.

Please add the following new claims:

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61. A signal sequence encoding a signal peptide comprising the sequence of amino acids -37 to -1 of SEQ ID NO: 7869.

62. The signal peptide of claim 61, wherein said signal sequence is encoded by a nucleotide sequence comprising the sequence of nucleotides 51 to 161 of SEQ ID NO: 3792.

63. A purified and isolated nucleic acid encoding a polypeptide comprising the signal peptide of claim 61.

64. The nucleic acid of claim 63, wherein said nucleic acid comprises the signal sequence of claim 62.

65. The nucleic acid of claim 63, wherein:

- (i) said nucleic acid comprises the full coding sequence of SEQ ID NO: 3792; and
- (ii) said full coding sequence comprises the sequence encoding said signal peptide and the sequence encoding the mature protein.

66. The nucleic acid of claim 64, wherein:

- (i) said nucleic acid comprises the full coding sequence of SEQ ID NO: 3792; and

(ii) said full coding sequence comprises the sequence encoding said signal peptide and the sequence encoding the mature protein.

67. The nucleic acid of claim 63, wherein said nucleic acid is linked to a nucleic acid sequence encoding a polypeptide that is heterologous to the polypeptide encoded by the gene corresponding to SEQ ID NO: 3792.

68. The nucleic acid of claim 64, wherein said nucleic acid is linked to a nucleic acid sequence encoding a polypeptide that is heterologous to the polypeptide encoded by the gene corresponding to SEQ ID NO: 3792.

69. An expression vector comprising a polynucleotide encoding the signal sequence of claims 63, 64, 65, 66, 67, or 68.

70. The expression vector of claim 67, wherein said vector is a secretion vector.

71. The expression vector of claim 67, wherein said vector is a gene therapy vector.

72. A host cell comprising an expression vector according to claim 69.

73. The host cell according to claim 72, wherein said expression vector is a secretion vector.

74. The host cell according to claim 72, wherein said expression vector is a gene therapy vector.

75. A method of directing the extracellular secretion of a polypeptide comprising the step of operably linking the nucleic acid of claim 63 or 64 to the coding sequence of a gene encoding a polypeptide.

76. A method for simplifying protein purification of a polypeptide comprising the step of operably linking a nucleic acid of claim 63 or 64 to the coding sequence of a gene encoding said polypeptide.

77. A method of making a secreted protein comprising the step of introducing the expression vector of claim 69 into a host cell and culturing said host cell.

78. The method of claim 77 further comprising the step of isolating said secreted protein.

79. A method of making a cDNA comprising the steps of:

- (i) contacting a collection of mRNA molecules from human cells with a primer comprising at least 15 consecutive nucleotides of a sequence complementary to SEQ ID NO: 3792;
- (ii) hybridizing said primer to an mRNA in said collection that encodes said protein;
- (iii) reverse transcribing said hybridized primer to make a first cDNA strand from said mRNA;
- (iv) making a second cDNA strand complementary to said first cDNA strand; and
- (v) isolating the resulting cDNA encoding said protein comprising said first cDNA strand second cDNA strand.

80. A method of making cDNA comprising the steps of:

- (i) obtaining a cDNA comprising a sequence of SEQ ID NO: 3792;
- (ii) contacting said cDNA with a detectable probe comprising at least 15 consecutive nucleotides of a sequence of SEQ ID NO: 3792 and the

sequences complementary to SEQ ID NO: 3792 under conditions which permit said probe to hybridize to said cDNA;

- (iii) identifying a cDNA which hybridizes to said detectable probe; and
- (iv) isolating said cDNA which hybridizes to said probe.

81. A method of making a cDNA comprising the steps of:

- (i) contacting a collection of mRNA molecules from human cells with a first primer capable of hybridizing to the polyA tail of said mRNA;
- (ii) hybridizing said first primer to said polyA tail;
- (iii) reverse transcribing said mRNA to make a first cDNA strand;
- (iv) making a second cDNA strand complementary to said first cDNA strand using at least one primer comprising at least 15 consecutive nucleotides of a sequence SEQ ID NO: 3792; and
- (v) isolating the resulting cDNA comprising said first cDNA strand and said second cDNA strand.

82. The method of claim 81, wherein the second cDNA strand is made by:

- (i) contacting said first cDNA strand with a first pair of primers, said first pair of primers comprising a second primer comprising at least 15 consecutive nucleotides of a sequence of SEQ ID NO: 3792 and a third primer having a sequence therein which is included within the sequence of said first primer;
- (ii) performing a first polymerase chain reaction with said first pair of primers to generate a first PCR product;
- (iii) contacting said first PCR product with a second pair of primers, said second pair of primers comprising a fourth primer, said fourth primer comprising at least 15 consecutive nucleotides of said sequence of SEQ ID NO: 3792, and a fifth primer, wherein said fourth and fifth hybridize to sequences within said first PCR product; and

(iv) performing a second polymerase chain reaction, thereby generating a second PCR product.

83. The method of claim 81, wherein the second cDNA strand is made by:

- (i) contacting said first cDNA strand with a second primer comprising at least 15 consecutive nucleotides of a sequence of SEQ ID NO: 3792;
- (ii) hybridizing said second primer to said first strand cDNA; and
- (iii) extending said hybridized second primer to generate said second cDNA strand.

84. A method of making a polypeptide comprising the steps of:

- (i) obtaining a cDNA which encodes a polypeptide encoded by nucleic acid comprising a sequence of SEQ ID NO: 3792;
- (ii) inserting said cDNA in an expression vector such that said cDNA is operably linked to a promoter;
- (iii) introducing said expression vector into a host cell whereby said host cell produces the protein encoded by said cDNA; and
- (iv) isolating said protein.